



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
& ENVIRONMENTAL CONTROL  
DIVISION OF AIR & WASTE MANAGEMENT  
715 GRANTHAM LANE  
NEW CASTLE, DELAWARE 19720

AIR QUALITY MANAGEMENT  
SECTION

TELEPHONE: (302) 323 - 4542  
FAX NO.: (302) 323 - 4598

September 29, 2015

**Permit: APC-2008/0087-CONSTRUCTION/OPERATION(Amendment 13)(NSPS)(SM)**  
**Roving Crusher, Impactor and Screener**

**Diamond Materials, LLC.**  
924 South Heald Street  
Wilmington, DE 19801

ATTENTION: Paul Lester  
Superintendent

Dear Mr. Lester:

Pursuant to 7 DE Admin. Code 1102, Section 2, approval by the Department of Natural Resources and Environmental Control (the Department) is hereby granted for the operation of one new Extec C-12 Crusher with capacity of 386 tons per hour powered by 350 hp Caterpillar C9 Diesel Engine, one existing Extec Impactor with capacity of 300 tons per hour powered by 366 hp DEUTZ BF6M 1015C diesel engine, and one new Extec S-6 Screener with capacity of 300 tons per hour powered by 100 hp DEUTZ BF4M 2012 diesel engine, located at the addresses listed in Condition 3.1 in accordance with the documents submitted in Appendix "A" and Secretary's Order 2015-A-0033, dated September 29, 2015.

This permit is issued subject to the following conditions all of which are federally enforceable except Condition 2.6 and 3.1:

**1. General Provisions**

- 1.1 Diamond Materials, LLC agrees that all limits, restrictions and requirements in this permit are necessary to limit their potential to emit to below major source thresholds. Violation of any limit, restriction or requirement contained herein may be grounds for suspension or revocation of the permit or other enforcement action for noncompliance with the permit, the failure to apply for a Title V permit, or the failure to obtain a Title V permit.
- 1.2 Representatives of the Department may, at any reasonable time, inspect this facility.
- 1.3 This permit may not be transferred to another location or to another piece of equipment or process.
- 1.4 This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit

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transfer shall be received by the Department at least thirty days before the date of the requested permit transfer. This request shall include:

- 1.4.1 Signed letters from each person stating the permit transfer is agreeable to each person; and
  - 1.4.2 An Applicant Background Information Questionnaire pursuant to 7 Del.C., Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous five (5) years.
- 1.5 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 **DE Admin. Code** 1102, and, when applicable 7 **DE Admin. Code** 1125, and receiving approval of such application from the Department; except as exempted in 7 **DE Admin. Code** 1102 Section 2.2.

## **2. Emission Limitations**

- 2.1 Air contaminant emission levels shall not exceed those specified in 7 **DE Admin. Code** 1102 and the following combined from all sites:
- 2.1.1 Particulate Matter (PM) Emissions  
PM emissions shall not exceed 2.37 tons per rolling 12-month period.
  - 2.1.2 Nitrogen Oxide (NO<sub>x</sub>) Emissions  
NO<sub>x</sub> emissions shall not exceed 7.83 tons per rolling 12-month period.
  - 2.1.3 Sulfur Dioxide (SO<sub>2</sub>) Emissions  
SO<sub>2</sub> emissions shall not exceed 0.71 ton per rolling 12-month period.
  - 2.1.4 Carbon Monoxide (CO)  
CO emissions shall not exceed 3.35 tons per rolling 12-month period.
  - 2.1.5 Volatile Organic Compounds (VOCs)  
VOC emissions shall not exceed 0.3 ton per rolling 12-month period.
- 2.2 The emission limits stated in Condition 2.1 and operational limitation stated in Condition 3.2 are maximums for operation at all sites combined.
- 2.3 The rolling twelve (12) month period emission limits along with the operational limits of this permit are voluntary limitations taken by the owner or operator to reduce the potential to emit nitrogen oxides to below the major source threshold of 7 **DE Admin Code** 1130.
- 2.4 Particulate emissions from fuel burning equipment shall not exceed 0.3 pound per million BTU heat input on a maximum two hour average.
- 2.5 At no time shall the emissions of visible air contaminants from the facility exceed the following:

- 2.5.1 Twenty percent opacity for an aggregate of more than three minutes in any one hour period, or more than 15 minutes in any 24 hour period from the diesel engines and systems for screening, handling, storing, weighing, loading, and transferring.
- 2.5.2 Ten percent opacity from the crushing operation's belt conveyor transfer points, except any stockpiles.
- 2.5.3 Fifteen percent opacity from the crusher.
- 2.6 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

**3. Operational Limitations**

- 3.1 This permit only allows for operation at the following locations:
  - 3.1.1 394 S Chapel Street, Newark;
  - 3.1.2 Village of Bayberry, Jamison Corner Road and Boyds Corner Road, Middletown;
  - 3.1.3 Christiana Mall North Parking Area, Newark;
  - 3.1.4 36393 Sussex Highway, Delmar;
  - 3.1.5 734 Dexter Corner Road, Townsend, DE 19734;
  - 3.1.6 560 South College Avenue, Newark, DE 19713;
  - 3.1.7 3700 Bay Road, Dover; or
  - 3.1.8 Indian River Inlet, Delaware Rt. 1, Bethany Beach
  - 3.1.9 1107 Willow Grove Road, Felton, DE 19943
  - 3.1.10 **200 Marsh Lane, New Castle, DE 19720.**
    - 3.1.10.1 Diamond Materials shall only process concrete materials that have been collected at the site before the permit application was received dated August 22, 2014.
    - 3.1.10.2 Authority for operation at this location shall cease once the concrete materials have been processed at 200 Marsh Lane, New Castle.
    - 3.1.10.3 Diamond Materials shall locate the crusher away from the residential area based upon the proposed location presented at the public hearing. The crusher shall be placed at approximately 400 feet away to minimize the noise during the crusher operation.

- 3.1.10.4 Diamond Materials shall only operate the crusher from 7am through 5pm on Monday through Friday.
- 3.1.10.5 Diamond Materials shall keep daily log records of operation and shall not exceed 150 operating days at this location.
- 3.1.10.6 The Department reserves the right to require that the owner or operator perform off site monitoring and/or emissions tests as approved at the company's expense.
- 3.2 The maximum hours of operation for this equipment shall not exceed 2,600 hours in any rolling twelve (12) month period from all sites combined.
- 3.3 The Extec Crusher shall not be operated above 386 tons per hour and Extec Impactor shall not be operated above 300 tons per hour.
- 3.4 The crusher operation shall only process concrete, asphalt, rock, block, or brick.
- 3.5 The sulfur content of all diesel fuel combusted in the diesel engines shall be no greater than 0.05% by weight.
- 3.6 This crusher shall be powered by 350 hp diesel engine, impactor shall be powered by 366 hp diesel engine and the screener shall be powered by 100 hp diesel engine.
- 3.7 The onboard manifold, piping hoses, valves, and spray bars for dust suppression shall be in operation at all times that the affected equipment is in operation.
- 3.8 Crushing operations shall be conducted only if proper fugitive dust suppression measures are met.
- 3.9 Fugitive emissions shall not be emitted in such quantities as to cause or create a condition of air pollution from material-handling operations, the stockpiling of materials or vehicular traffic entering or leaving the facility. Dust control measures shall be employed on all non-paved access roads and driveways to the facility to minimize fugitive emissions from vehicular traffic entering or leaving. Dust control measures shall include methods such as water tanker/sprinkler trucks, water sprinkler systems, dust retardant sprays, etc.
- 3.10 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 3.11 All structural and mechanical components of the equipment or process covered by this Permit shall be maintained in proper operating condition.

**4. Testing and Monitoring Requirements**

Initial Performance and Visible Emissions Testing for the Extec crusher and Extec screen:

The Company shall conduct an initial performance test while operating at maximum production, to establish compliance with the visible emissions standards of Condition 2.5:

- 4.1 The performance test shall be conducted during representative performance of the equipment. Representative performance shall be defined as operating the plant at its maximum production rate. The Company shall make available to the Department a record of these operating parameters.
- 4.2 Within sixty (60) days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial startup of such facility, the owner or operator shall conduct performance test(s) and furnish the Department and EPA with a written report of the results of such performance test(s).
- 4.3 The facility shall provide the Department and EPA a minimum of 30 days prior notice of the performance test, to afford the Department and EPA the opportunity to have an observer present.
- 4.4 The test protocol shall be submitted a minimum of thirty (30) days in advance of the tentative test date to the address in Condition 6.5.
- 4.5 The final results of the testing shall be submitted to the Department within thirty (30) days of the test completion.
- 4.6 Compliance shall be determined by conducting observations in accordance with Reference Method 9 in appendix A of 40 CFR Part 60, with the following additions:
  - 4.6.1 The minimum distance between the observer and the emission source shall be 4.57 meters (15 feet).
  - 4.6.2 The observer shall, when possible, select a position that minimizes interference from other fugitive emission sources (e.g., road dust). The required observer position relative to the sun (Method 9, Section 2.1) must be followed.
  - 4.6.3 For affected facilities using wet dust suppression for PM<sub>10</sub> control, a visible mist is sometimes generated by the spray. The water mist must not be confused with PM<sub>10</sub> emissions and is not to be considered a visible emission. When a water mist of this nature is present, the observation of emissions is to be made at a point in the plume where the mist is no longer visible.
- 4.7 **Ongoing Visible Emissions Testing:**  
Each calendar year while the plant is in operation and material is being processed, the plant shall be observed for visible emissions using EPA Reference Method 9. Each screen, stockpile, belt conveyor transfer point, and crusher shall be observed for a period of ten (10) minutes to ensure compliance with its opacity standard in Condition No. 2.5. If an emission point exceeds its respective opacity standard, the plant shall be shut down or corrective action be taken immediately to resolve the emissions.

- 4.8 When determining compliance with the fugitive emissions standard for transfer points, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:
  - 4.8.1 There are no individual readings greater than ten percent (10%) opacity; and
  - 4.8.2 There are no more than three (3) readings of ten percent (10%) during the 1-hour period.
- 4.9 When determining compliance with the fugitive emissions standard for the crusher, the duration of the Method 9 observations may be reduced from 3 hours (thirty 6-minute averages) to 1 hour (ten 6-minute averages) only if the following conditions apply:
  - 4.9.1 There are no individual readings greater than fifteen percent (15%) opacity; and
  - 4.9.2 There are no more than three (3) readings of fifteen percent (15%) during the 1-hour period.
- 4.10 Daily, while the plant is in operation and material is being processed, the presence or absence of visible emissions for each screen, stockpile, belt conveyor transfer point, and crusher shall be observed. Compliance with this condition shall be demonstrated by the maintenance of a bound log of visible emissions and, if necessary, taking corrective action if visible emissions are observed. Corrective action shall be taken within forty-eight (48) hours and documentation shall be made. After corrective action is taken, the emissions will again be observed. If visible emissions are still observed these steps (observe, correct, document) will be repeated until no visible emissions are detected or the equipment is taken off-line.

**5. Record Keeping Requirements**

- 5.1 The owner or operator shall maintain all records necessary for determining compliance with this permit in a readily accessible location for five (5) years and shall make these records available to the Department upon written or verbal request.
- 5.2 The following information shall be recorded, initialed and maintained in a log each day:
  - 5.2.1 The hours of operation and location of the crusher, impactor and screener.
  - 5.2.2 The quantity, in weight, of concrete material processed.
  - 5.2.3 A statement that the water flow dust suppression system was operating properly during all times that the affected equipment was in operation.
  - 5.2.4 A statement of compliance with Conditions 2.5, 2.6, 3.8, and 3.9 of this permit.
  - 5.2.5 The presence or absence of visible emissions when operating, on a daily basis.
- 5.3 The following information shall be recorded and initialed in a log each month:
  - 5.3.1 The total monthly and rolling 12-month hours of operation of the crusher, impactor, and screener.
  - 5.3.2 Manual Method 9 opacity observations of the crusher, impactor, and screener operations.
  - 5.3.3 The monthly and rolling 12-month total PM, NO<sub>x</sub>, and CO emissions and all supporting calculations.

- 5.4 The dates of all diesel oil deliveries, along with supplier certification as to the sulfur content of the fuel, shall be recorded and retained in a log. The owner or operator shall retain all supplier fuel certifications. Certifications shall state:
  - 5.4.1 The name of the fuel supplier.
  - 5.4.2 The oil complies with the specifications for fuel oil No. 2, as defined by the American Society for Testing and Materials in ASTM D396, "Standard Specification for Fuel Oils."
  - 5.4.3 The sulfur content of the oil as determined by ASTM methods: D129, D1552, D2622, or D4294.
- 5.5 A maintenance/inspection log shall be maintained detailing all routine and non-routine maintenance performed on the crusher, impactor, screener, diesel engines, and all associated equipment.
- 5.6 The Company shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an applicable source, or any malfunction of the air pollution control equipment.

**6. Reporting Requirements**

- 6.1 The owner or operator shall submit to the Department the following information about any replacement crusher facilities or any new equipment:
  - 6.1.1 For a crusher, grinding mill, bucket elevator, bagging operation, or enclosed truck or railcar loading station:
    - 6.1.1.1 The rated capacity in tons per hour of the existing facility being replaced.
    - 6.1.1.2 The rated capacity in tons per hour of the replacement equipment.
  - 6.1.2 For a screening operation:
    - 6.1.2.1 The total surface area of the top screen of the existing screening operation being replaced.
    - 6.1.2.2 The total surface area of the top screen of the replacement screening operation.
  - 6.1.3 For a conveyor belt:
    - 6.1.3.1 The width of the existing belt being replaced.
    - 6.1.3.2 The width of the replacement conveyor belt.
  - 6.1.4 For a storage bin:
    - 6.1.4.1 The rated capacity in tons of the existing storage bin being replaced.
    - 6.1.4.2 The rated capacity in tons of replacement storage bins.
- 6.2 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery by calling the Environmental Emergency Notification and Complaint number, (800) 662-8802.

- 6.3 In addition to complying with condition 6.1 of this permit, any reporting required by 7 DE Admin. Code 1203 "**Reporting of Discharge of a Pollutant or an Air Contaminant**", and any other reporting requirements mandated by the State of Delaware, the owner or operator shall for each occurrence of excess emissions, within thirty (30) calendar days of becoming aware of such occurrence, supply the Department in writing with the following information:
- 6.3.1 The name and location of the facility;
  - 6.3.2 The subject source(s) that caused the excess emissions;
  - 6.3.3 The time and date of the first observation of the excess emissions;
  - 6.3.4 The cause and expected duration of the excess emissions;
  - 6.3.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
  - 6.3.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
- 6.4 One (1) original and one (1) copy of all required reports shall be sent to the address below:
- Division of Air Quality
  - Blue Hen Corporate Center
  - 655 S. Bay Road, Suite 5N
  - Dover, DE 19901
- 6.5 One (1) original and one (1) copy of the reports required by Condition 4.2 and 6.2 shall be sent to:
- US Environmental Protection Agency
  - Region III, **3AP20**
  - 1650 Arch Street
  - Philadelphia, PA 19103
- 6.6 The Company shall provide written notification to the Department at least 15 calendar days prior to each move of the equipment from one approved site to another approved site.

**7. Administrative Conditions**

- 7.1 This permit shall be made available on the premises.
- 7.2 Failure to comply with the provisions of this permit may be grounds for suspension or revocation.



**Permit: APC-2008/0087-CONSTRUCTION/OPERATION(Amendement 13)(NSPS)(SM)**  
**Diamond Materials, LLC**  
**Roving Crusher, Impactor and Screener**  
September 29, 2015  
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7.3 This permit supersedes Permit: APC-2008/0087-C/O(Amendement 12)(NSPS)(SM)  
dated November 5, 2014.

Sincerely,

A handwritten signature in blue ink, appearing to read "PEF", with a long horizontal line extending to the right.

Paul E. Foster, P.E.  
Program Manager  
Engineering & Compliance Branch

PEF:ADM:CMD  
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**APPENDIX "A"**

<b>Date Submitted</b>	<b>Application Form(s)</b>	<b>Signed by</b>	<b>Location</b>
4/14/2008	AQM-1, AQM-2, AQM-3.1, AQM-3.3, AQM-3.9, and AQM-5	Michael D. Logan of Compliance Services, Inc.	394 S. Chapel Street, Newark
4/24/2009	AQM-1, AQM-2, AQM-3.1, AQM-3.3, AQM-3.9, AQM-5	Paul Lester, Superintendent	US Route 301 & State Route 71, Middletown
7/1/2009	AQM-1 & AQM-3.9	Toni Sartori	832 N. Manor Avenue, Claymont
9/15/2009	AQM-1, AQM-2, AQM-3.1, AQM-3.3, and AQM-5	Paul Lester	Village of Bayberry, Jamison Corner Road & Boyds Corner Road, Middletown
2/22/2010	AQM-1, AQM-3.9	Paul Lester	Christiana Mail North Parking, Newark
4/4, 16 & 18/ 2010	AQM-1, AQM-2, AQM-3.1, AQM-3.3, AQM-3.9, AQM-5, & Additional Information	Paul Lester, Superintendent & Jonathan Knight	36393 Sussex Highway, Delmar
9/28/2010 & 10/8/2010	AQM-1, AQM-3.9 & Letter	Jonathan Knight	734 Dexter Corner Road, Townsend
7/13/2011	AQM-1, AQM-3.9 & Letter	Paul Lester	560 South College Ave., Newark
4/27/2012	AQM-1, AQM-3.9 & letter	Paul Lester	100 Julian Way, Bear
5/14/2013	AQM-1, AQM-3.9 & letter	Paul Lester	3700 Bay Road, Dover
8/30/2013	AQM-1, AQM-3.9 & letter	Paul Lester	Indian River Inlet, Rt.1, Bethany Beach
10/9/2014	AQM-1 & Letter	Paul Lester	1107 Willow Grove Road, Felton
08/8/2014	AQM-1 & Letter	Paul Lester	200 Marsh Lane, New Castle
08/22/2014	AQM-1 & Letter	Paul Lester	200 Marsh Lane, New Castle

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